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What prevents people accessing urban bluespaces? A qualitative study.

Abstract

Persistent inequalities in use of bluespaces mean their wellbeing benefits are not fairly shared, a situation which can only be addressed through understanding why people do not access them. This paper addresses complex influences on bluespace accessibility through qualitative research into perceptions of urban waterways, with a focus on non-use. It aims to reveal what distinguishes these as spaces available for outdoor recreation in terms of deterrents to access. Results highlight the significance of spatial characteristics as reasons for avoiding bluespaces: unguarded water and a history of negative narratives limit their appeal. Analysis finds risk perception a strong influence on choice of outdoor destinations, an absolute limit rather than a nuisance, particularly for vulnerable groups. Designers and managers of urban bluespaces can encourage use through enhancing environmental quality. Improved cleanliness, lighting, and surveillance will improve their sense of safety. This research suggests a need to assess sites from varied perspectives, mindful of vulnerable people's experiences, to identify how perceived risks can be mitigated. To further equitable access to bluespaces future research should recognise that the influence of spatial characteristics means access constraints may not be generalised across types of space. Additional qualitative investigation of non-use of varied spaces is required to inform interventions to promote access amongst under-represented groups.

1. Introduction

Inland waters are important components of green infrastructure, connecting habitats and providing distinct ecosystem services (Ioja et al., 2018). Places featuring visible surface waters are typically termed bluespaces, drawing analogy with the related, more established term greenspace (Völker and Kistemann 2011, p. 449). This paper focuses on bluespaces' benefits as amenities for health and recreation, in the context of wellbeing benefits (Gascon et al., 2015), and environmental justice ambitions to maximise use amongst disadvantaged groups (Assmuth et al., 2017; Nesbitt et al., 2018; Paloniemi et al., 2018). Through a rare focus on reasons for non-use and spaces with significant numbers of non-users it offers valuable insight into bluespace accessibility. The bluespaces considered are urban waterways, inland canals and navigable rivers, engineered rather than natural watercourses. European networks were created to facilitate industrialisation, but now serve largely ecological and recreational purposes, often linked to tourism or urban redevelopment (Vallerani and Visentin, 2017). Aging waterway infrastructure can only be renewed with significant investment, the return on which should be societal benefits (Boscacci et al., 2017; Miller, 2016; Willems et al., 2018).

UK waterways are championed as resources for public wellbeing by a charity managing most of the network (CRT, 2017). The Canal and River Trust is responsible for 2000Km of waterway, associated historic and natural assets. An interactive map of their network is at <https://canalrivertrust.org.uk/enjoy-the-waterways/canal-and-river-network>. The waterway corridor includes the channel open to watercraft, and adjacent towpath accessible for pedestrian and cycle traffic - a considerable resource free-to-access for recreation, with significant wellbeing potential. There is increasing evidence of bluespaces' wellbeing benefits (Bell et al., 2018; Gascon et al., 2015; Völker and Kistemann, 2011), but inland and

urban waterways are relatively neglected (Pitt, 2018; Völker et al. 2018). Their wellbeing potential is magnified by their concentration alongside inner-city populations likely to suffer health deprivation and greenspace inequality (CRT 2017; Houghton and Houghton, 2015; Roe et al., 2016). However, monitoring suggests only 31% of adults resident in England and Wales have visited a waterway in the last year (CRT, 2017, p.29). The profile of visitors does not match the age and ethnic profile of the population near waterways (CRT, 2017, p.92).

1.1 Reasons for not accessing bluespaces

Perceptions of urban bluespaces and how they limit use have not previously been investigated, but insight is available from research into outdoor recreation and greenspace access. Outdoor recreation is unequal, with certain groups less likely to participate (Boyd et al., 2018; Bell et al 2018; Hunt et al., 2016; Natural England, 2015), despite efforts to attract diverse users (Ethnos, 2005; Evison et al., 2013; Morris and O'Brien, 2011). Interventions requires understanding reasons behind lack of access, which little research considers (Bell et al. 2018; Boyd et al. 2018; Hitchings, 2013). It requires a non-normative perspective which does not assume any environments are inherently appealing (Bell et al. 2018), or socio-culturally neutral (Roberts-Gregory and Hawthorne, 2016).

Better understanding of non-use of bluespaces is required so their wellbeing potential can be realised (Völker et al. 2018). Reasons for variable access to natural environments in England were recently explored through national data (Boyd et al. 2018). But this survey does not isolate barriers specific to bluespaces, or distinguish types of inland waters (Natural England, 2017). Research into attitudes to one urban waterway suggests varying perceptions, with not all residents identifying them as valuable environments (Miller 2016). It may be expected that those living nearest bluespaces are most likely to use them, as proximity strongly influences

outdoor recreation (Gascon et al. 2015; Morelle et al., 2018). But the amount of space perceived available may not be accurate (Aoshima et al. 2018). Perceived quality and safety also affect use (Bell et al. 2014; McCormack et al., 2010; Seaman et al., 2010). Data from Finland suggests proximity does not determine use or accessibility of urban bluespaces (Laatikainen et al., 2015; Paloniemi et al. 2018). The same project explored how different groups might experience restrictions on access, but relied on expert opinion rather than actual experiences (Assmuth et al., 2017). A US study found interaction with urban bluespace associated with proximity, ethnicity, socio-economic status, family composition, household tenure and length of residence (Haeffner et al., 2017). Non-white householders and those of lower socio-economic status accessed bluespaces less, but data could not reveal reasons for this. Research centred on bluespaces in two German cities tested associations between perceived walkability, use, and wellbeing (Völker et al., 2018). This found walking distance significantly associated with frequency of visiting waterways. The size of bluespace also affected likelihood of visiting, with use of some spaces influenced by the co-presence of greenery. Links between accessibility and wellbeing were inconclusive, but there were indications that frequent use enhances mental health. The authors conclude that perceived accessibility does not explain variations in bluespace use, or its effects on health, illustrating the need for deeper investigation into use and perceptions.

The limitations of available data suggest a need for qualitative studies offering deeper insight into behaviours (Hitchings, 2013). Accessibility and use are influenced by complex socio-cultural factors associated with gender, age, ability and ethnicity (Morris & O'Brien, 2011). Ambitions to promote use amongst under-represented groups need to understand variations in use (Roe et al., 2016). This requires qualitative studies considering how people perceive and interact with spaces, and what prevents access, with non-users more prominent (Hitchings,

2013; McCormack et al., 2010). Such approaches allow sensitivity to cultural factors influencing access, and how spaces become coded as where some ‘do not belong’ (Bell et al., 2018; Byrne and Wolch, 2009). This research addresses gaps in understanding perceptions of bluespaces, with an emphasis on reasons for not accessing them. It furthers qualitative understanding of complex influences on outdoor recreation, and ways to enable equitable access.

2. Research Design and Methods

Research was designed to address a series of knowledge gaps, requiring increasingly detailed qualitative insights (Figure 1). Findings from stages 1- 3 are detailed here. Ethical approval was given by the institution’s research ethics committee. The research was co-designed with Canal and River Trust (CRT) to generate learning applicable to waterways management, and capitalise on institutional knowledge of waterway characteristics and use. Operationally, CRT categorise waterways by multiple variables: rural/urban, geographic region, river/canal, environmental quality, level of use. These were considered as factors in case study selection, but it was not feasible to reflect all waterway types in detailed qualitative research. CRT’s priority was understanding populations less likely to access waterways: Black Asian and Minority Ethnic (BAME) populations, those experiencing socio-economic deprivation and poor health (CRT, 2017). This prompted a focus on locations with significant concentrations of target communities adjacent to waterways. Older and young people are also less likely to participate in outdoor recreation in the UK (Natural England, 2017), but as less spatially correlated populations their participation was possible in various locations. From urban waterways matching priority characteristics four case studies were selected: Leeds-Liverpool Canal in Blackburn Lancashire, River Soar and Grand Union Canal in Leicester, Grand Union Canal in Milton Keynes, and Regents Canal in Tower Hamlets London. CRT

suggested urban waterways have poorer visual amenity than rural locations, and that this deters use. To account for this Milton Keynes was included as an urban waterway with better visual amenity, and high levels of use¹ (Figures 2 and 3). In the remainder of this section Stages 1 and 2 are described as context for the qualitative investigation comprising stage 3. Full presentation of these findings precludes detailed reporting of Stage 4 here.

2.1. Stage 1: What types of people are under-represented amongst waterway users?

Stage 1 sought to confirm CRT's observation that certain groups are less likely to access waterways. To profile current users an intercept survey was undertaken on towpaths on the four waterways, at locations with steady footfall, during weekday and weekend periods. Surveys were administered by professional researchers employed by an independent consultancy. In addition to basic demographic information, it asked the nature of the visit (purpose, duration, mode of travel, companions), frequency of visiting, perceptions of the waterway, reasons for not visiting more, and general physical activity. Characteristics of waterway users were compared with those of the population resident within the 1.5km waterway corridor (Table 1), confirming users did not reflect residential communities. Females, those reporting limiting health conditions, and the youngest age group were under-represented. White British users were over-represented, particularly in Blackburn and Leicester where the population is over 30% Asian/British-Asian but less than 4% of users identified as such. It is possible minority ethnic users are under-reported amongst survey respondents due to unconscious bias affecting survey administrators and potential participants. However, these patterns reflect groups typically under-represented in greenspace

¹ The contrast arises from Milton Keynes origins as a mid-twentieth century new town, designed around high levels of greenspace and good provision for walking and cycling, creating very different landscapes from historic inner cities dating to industrialisation.

use nationally (Boyd et al. 2018; Natural England 2015). Waterway use diverges with higher representation of over-65s.

2.2. Stage 2: Do waterways present unique barriers to outdoor recreation?

Having confirmed certain groups are under-represented amongst waterway users, the next task was to identify whether this was due to general limitations on outdoor access, or factors specific to urban waterways. The user questionnaire asked whether anything prevented visiting waterways more often, with affirmative responses detailed through open comments. Parallel questions identified anything preventing users spending more time outdoors. Responses to these questions were compared and contrasted (Table 2 and 3), and suggested waterway use is distinct. Firstly, numbers reporting limits to visiting waterways exceed those reporting limits to outdoor activity, and not all of those experiencing limits to waterway access also reported constraints on outdoor access. Secondly, limiting factors vary between waterways and outdoor spaces: common reasons for not accessing waterways related to their spatial qualities, whilst personal circumstances were more influential on outdoor activity. Finally, certain factors were cited only in relation to waterways (e.g. darkness, drug users) suggesting un-appealing facets specific to waterways.

2.3. Stage 3: What is the nature of barriers to waterway access?

Stages 1 and 2 pointed to specific limits on waterway accessibility requiring detailed qualitative data, with an emphasis on non-use. Likely non-users identified through the survey were prioritised for recruitment: under 18s, ethnic minorities and females. Groups with specific access needs were also targeted: over 65s and parents of pre-school children. People with physical disabilities were the focus of separate research commissioned by CRT. Recruitment was purposive, guided by the potential to gather valuable learning (Stake, 1995).

Targeting those under-represented amongst waterway users means participants were not expected to represent local populations, hence over-representation of under 18s and females (Table 4). Participants were recruited through intermediary organisations working with target groups: youth services, social housing tenant engagement teams, parent-toddler groups, older people's groups and community associations. Researchers sought to recruit additional ethnic minority adults but failed to engage local gatekeepers. Those not currently using waterways were the prime targets but recruiting through existing groupings meant those more familiar with waterways were not easily excluded. This was accommodated for two reasons: interrogating perceptions of waterways requires participants have some awareness of them. Secondly, even those who do access waterways reported reasons for not doing so more.

Participants joined group workshops designed to elicit perceptions and experiences of waterways. Sessions involved materials illustrating local waterways (photos, leaflets, press articles). Prompts combined open questions (What comes to mind when you think of waterways?), with photo and statement elicitation based on issues highlighted in the user survey. Group sessions were supplemented by 34 individual interviews, and interviews with 10 staff of CRT and community partners. Discussions and interviews were transcribed then analysed using NVIVO. Open coding identified factors limiting waterway access; overlapping or similar codes were combined into 19 reasons (Table 5). Transcripts were reviewed to identify number of participants citing each reason, and number of mentions; both counts were used to rank reasons for each location and demographic group. Counts were sense checked by reviewing transcripts to check for influence from conversational context or group dynamics. The top ranked reasons were consistent whether determined by number of participants affected or number of mentions and are differentiated in Table 5. Ranking of less common reasons varied between the two counts, and did not suggest a clear pattern.

3. Results: Understanding why people do not access waterways

Qualitative data from Stage 3 revealed multiple reasons for not accessing waterways at all or more often, a majority cited across locations and groups (Table 5). These are detailed as themed categories, before examining patterns in who is affected.

3.1. Waterway perceptions and understanding

This category includes negative perceptions and expectations of waterways, with a focus on symbolic and social characteristics. Dominant negative perceptions were of waterways as scary places, and related associations with risk-taking behaviour:

Our canal is an absolute no-no. And that was for all communities not just young people.

It's the perception that there's a lot of risk-taking behaviour taking place in the area down by the canal. And that's not just kind of drugs and alcohol, but it's also sexual activity, and various other forms of risk-taking in the area that I think kind of puts people off from visiting the canal (youth worker, Blackburn).

Words like dodgy conveyed anti-social activity such as substance misuse, drug dealing and other criminal activity, in combination with threats to personal safety:

Like you get a lot of crazy people, alcoholics, dealers, you don't wanna be associated with that on the canal. It's uncomfortable, you don't wanna be seeing that (young male, Blackburn).

Sense of emptiness contributed to perceived risk:

I probably wouldn't go on that walk on my own because I am quite a scared person with like, walking through bushy areas on my own (adult female, Milton Keynes).

Associations with risk make waterways intimidating and less appealing than other spaces.

Other negative perceptions were of waterways as boring:

It's not appealing, it's really boring. Not many people go there (young male, Blackburn).

This was associated with lack of engaging activities. Young people were particularly concerned with boredom, feeling waterways do not afford opportunities for their preferred leisure pursuits. This related to lack of insight into waterways and how to access them:

it's lack of information and lack of – ignorance, I didn't know what, you know all these facilities were there, all what is there [...] I knew there was a river in the city but not really all there is all the facilities, where there a boat where there is canoeing, the fishing. (adult female, Leicester).

Such comments highlight that perceiving waterways as boring and not knowing much about them are likely to reinforce each other. Participants least familiar with waterways could not imagine what they might do there, or why they would want to visit.

3.2. Waterway space and environment

This category refers to the physical space, although not necessarily based on direct experience. Waterways were perceived as scary because they are poorly lit, especially at night. The perception of dodginess was fuelled by other physical characteristics including the presence of litter, dirty water, graffiti and signs of neglect including buildings in dis-repair or pot-holes in the towpath. Participants reported seeing dirty needles and other traces of anti-social behaviour which, for some, included graffiti.

Some of those interested in accessing waterways were deterred by the lack of facilities. For parents this included shelter and bathrooms, equipment for play or education. Older people were attracted by canals' flat terrain making walking and cycling more manageable, but

disliked their lack of toilets and amenities such as eateries. Physical accessibility seems particularly important for older people (Sugiyama and Ward Thompson, 2008), who also want more signage and seating because of reduced mobility (Doick et al., 2009). Parents found the waterway corridor impeded mobility as they cannot walk or cycle abreast with children on narrow paths. This confounded safety concerns:

The thing is you have to watch the kids because there is not fencing there or anything (adult female, Milton Keynes).

Participants in Tower Hamlets were concerned local towpaths could be very busy:

runners, bikes, you've got to keep your eyes open all the time, they're coming from behind you. It's not restful. (older male, Tower Hamlets).

Some noted path condition and lack of maintenance reduced accessibility and safety, whilst built features reduce visibility.

3.3. Personal situation

These issues are associated with person rather than waterways, so may apply to other leisure destinations. Young people were most likely to cite lack of time, feeling pressure to complete studies. The lack of adults citing time pressure reflects a majority being retired, full time carers or only working part-time. Lack of time arises from prioritising pursuits other than outdoor recreation, so interacts with lack of interest in waterways:

I would enjoy to see a canal, but I wouldn't take time out of my day to specifically go and see a canal. I'd just rather go and do something more productive (young female, Leicester).

Few young people expressed interest in waterway activities such as walking. Adults were more interested in walking or relaxing outdoors, with many currently enjoying these activities elsewhere, but spatial and safety constraints or ignorance keep them away from waterways.

Another preference was to not visit alone either for safety or sociability, and lacking suitable companions to do so. Cost and practical constraints such as transport availability did not feature prominently, possibly reflecting targeting of people living within walking distance of a waterway, and that access is free.

3.4. Other

Barriers outside these categories included bad weather, with some parents highlighting that canals tend not to offer shelter. Some participants cited the potential presence of dogs as problematic; a small minority were phobic of any dog, more were averse to uncontrolled dogs. Living distant from waterways was mentioned but not prominent in discussion, probably because recruitment focused on communities around waterway corridors.

3.5. Relative significance of reasons for not accessing waterways

Examining each reason's relative prominence for each group and location suggests patterns in who they affect. The most prominent reasons overall were categorised '*Waterway Space and environment*', and '*Waterway perceptions and understanding*', with '*Personal Situation*' much less prominent. Across all groups the most prominent reasons for not accessing waterways were perceptions they are dirty, dodgy and risky. Concerns with water safety and other fears were also prominent. Spatial factors – perceived or actual waterway characteristics – were more influential than personal situation. Even participants not familiar with waterways suggested characteristics they found off-putting, suggesting attitudes rooted in popular discourse.

There are important distinctions between factors preventing visits, and those disliked but tolerated. Dog mess and litter were commonly associated with waterways, nuisances which

spoil a visit but rarely prevent someone visiting. In contrast, fear of intimidating people and strangers were absolute deterrents. One young man said he never goes to waterways because they are dangerous to non-swimmers. An older woman in Tower Hamlets said she would “close her eyes” to inconveniences like graffiti, but would be actively deterred by groups of men who could hurt her. This suggests a spectrum ranging from nuisances to absolute deterrents to use. Nuisances become more influential in locations with plentiful quality greenspaces.

3.6. Variations between waterways

The most notable geographic variation was participants in Milton Keynes being more positive about waterways which are in good condition, often adjacent to quality greenspace with semi-rural aspects (Figure 2). In contrast, canals in Tower Hamlets are in constrained urban environments with little vegetation and busy towpaths (Figure 3). Blackburn was perceived to have particular problems with drinking around the canal. Several people in Milton Keynes noted they imagined canals in general to be risky, but this was not true locally. Opposite nuances emerged elsewhere, where people described canals in general as pleasant natural environments, but local ones as unpleasant (see X 2018). This suggests it is significant whether people are asked about non-use of specific, familiar places or hypothetical types of space.

3.7. Demographic variation

As noted, participants in this stage included some more familiar with waterways, who also expressed reasons for not visiting more, and echoed negative perceptions voiced by non-users. Demographic comparison is complicated by variations in waterway quality, and the complexity of qualitative data. But analysis suggests certain reasons are associated with

particular groups, or were described in terms highlighting demographic influence. This section highlights the range of perspectives managers must consider to make bluespaces widely accessible.

3.7.1. Age

Comparison suggests variation associated with age more than gender or ethnicity. Older people were the only participants to note issues with health and mobility as limiting. Young people were most likely to cite being too busy or lacking time as limiting, associating this with education pressures. Young people were most likely to perceive waterways as boring, in line with preferences to spend free-time otherwise. Teenagers favour indoor leisure, and more static pursuits (Kirby et al., 2013), and are more likely to be attracted outdoors by something to do than by the place alone (Bell et al., 2003). Like other fringe areas, lack of adult surveillance holds appeal for young people seeking escape (Bell et al., 2003). But young participants who enjoy canals for this were aware it was unusual amongst their peers, and unlikely to become a preferred option for socialising.

Some young women identified parental control as limiting:

My family wouldn't be like, 'yeah it's fine, go for a walk, it's not a problem', they'd probably be like 'steer away from the canal' you know. Yeah like before I came here, my mum was like 'make sure you know, you're safe with someone older'. [...] boys go out all the time anyway so um, it's not a problem for them, cos they go on long walks, they like chill outside and stuff so yeah it wouldn't be a problem for them (young female, Blackburn).

Given their image as insalubrious places these parents would not want their daughters associated with waterways. Parental supervision was only highlighted by young women of

South Asian heritage, suggested by youth workers to reflect family relations within this community.

Concerns for personal safety were prominent across all age groups, although the perceived risk varied. Older people were more likely to note fear of young people or muggers. Those aged 65+ are conscious of being vulnerable in remote places, due to relative immobility and the risk of injury (Jorgensen and Anthopoulou, 2007). Avoiding going out after nightfall was also a concern for older people. Although not alone in avoiding dark waterways, they are particularly constrained by this (Sugiyama and Ward Thompson 2008). Young people were wary of gangs of their peers, strangers, particularly drunks, drug takers or paedophiles. Parents' concerns were of risks to young children falling into the water.

3.7.2. Gender

Much research suggests gendered dimensions to outdoor access (MacBride-Stewart et al., 2016). Women can be particularly concerned about personal safety in greenspaces (Morris & O'Brien 2011: 330). There was no obvious gender distinction between participants' reasons for not visiting waterways, with personal safety concerns noted by all. But descriptions of risk suggest gender dimensions, with some female-only discussions paying considerable attention to safety, including sexual assault. Some participants suggested females are more vulnerable to attack and more likely to be victims. Women associated risk around waterways with unknown men hanging around, darkness, isolation and absence of help or phone signal. Several women said they would feel safe with male companions, suggesting a gendered dimension to risk around waterways. But females expressed varying levels of risk perception and tolerance; not all the young women who had suffered racist abuse were wary of this happening again. Males also cited fear influencing non-use, with the perceived risk varying with age. Older men described intimidation by unknown young men and the threat of

mugging. The narrative of stranger danger emerged from teenagers, as did risks around deviant behaviour. Young men experienced gendered concerns with the threat of peer bullies or gang members.

3.7.3. *Ethnicity*

Waterway use in the case study locations reflected patterns of ethnic variation in outdoor recreation nationally (Boyd et al 2018; Natural England 2015), with White British users still dominant in areas with large non-White populations. Some research suggests ethnic minority groups lack cultural affinity for greenspaces (Slee, 2002). But there is a risk of preferences associated with dominant cultural groups marginalising other views (Bell et al. 2018), and overlooking the history underlying greenspace use (Byrne, 2012). The flip-side of culturally blind expectations is the continued injustice of excluding ‘different’ bodies (Bell et al. 2018), as outdoor provision has not always addressed needs of BAME communities (Evison et al., 2013).

The similarity of narratives amongst all participants suggests ethnicity may not strongly influence accessibility. Qualitative data was collected by white British female researchers, which may have influenced participants’ contributions. It is also important not to generalise about an ethnic group based on participants’ views, or falsely homogenise non-White participants. Findings *do* suggest issues which may be overlooked if practitioners focus on dominant groups. Minority-ethnic participants were more likely to have never visited a waterway or be infrequent users, making lack of knowledge more prominent for them. Participants in Blackburn noted influences specific to communities of South Asian heritage. For example, young people felt pressured to achieve by first generation immigrant parents who prioritise hard work over leisure. Young females face additional expectations:

I've had plenty of mothers coming to me saying 'I really want my daughter to be involved but the amount of housework that we have to do at home as well'. And I still think there's that gender kind of barrier that kind of hasn't been broken down, that the females need to do the housework and the males can go out and be the breadwinners and have the fun (youth worker, Blackburn).

Parental control interacts with ignorance of waterways which perpetuates images of them as dangerous and unpleasant, hence continued non-use.

One issue directly linked to ethnicity was the risk of racist abuse. Fear of discrimination and racism in urban greenspace is a concern amongst minority groups (Ethnos 2005; Madge, 1997; Woolley et al., 1999), causing younger children to avoid places where they fear racial bullying (Woolley et al., 1999).

Some young Muslim women said wearing hijabs makes their religion visible, increasing susceptibility to racial abuse. Male silence on this may mask similar experiences, although there is evidence that female Muslims are particularly vulnerable (Tell Mama, 2016). None who raised this issue had visited waterways; it was noted in relation to public spaces in general. Young Muslim women in Leicester disagreed as to whether they would avoid places for fear of abuse, but it affected their mental map of their home town in a way it would not for a White Christian woman. Their peers in Blackburn did not mention racist abuse, but these young women recognised places they visit concentrate in neighbourhoods where South Asian populations dominate, meaning they interact less with other ethnic groups.

Previous research suggests it does not take overt racism to deter minority groups from accessing the outdoors, the discomfort of feeling different is sufficient (Rishbeth and Finney, 2006). Young women highlighted this:

If I was the only Somali person on the boat ride I would - I would at least need one other person. If everyone else is the same ethnicity except for me, I'd feel like I stick out like a sore thumb (Leicester).

Such discomforts may have been awkward for participants to express to a White non-Muslim academic, hence potential under-reporting.

4. Discussion

This research aimed to identify influences on bluespace accessibility through qualitative research into perceptions of urban waterways, exploring reasons for non-use. Some stated nothing prevents them visiting, others offered hypotheticals. Not wanting access is perfectly reasonable (Boyd et al. 2018); the goal for practitioners is ensuring no-one desiring access is impeded. Observed patterns of waterway use coincide with trends in non-use of greenspace suggesting demographic influences. Findings may have been affected by the sample composition, however, results show few issues associated with particular identities, with most crossing age, gender and ethnic groups. Two factors explain this anomaly. Firstly, a significant determinant of attitudes to waterways is familiarity. Those who never or rarely visit lack positive images of waterways and the comfort of familiarity, perpetuating cycles of non-use. Secondly, the significance of perceiving waterways as risky crosses groups, with concern for personal safety a prominent deterrent. Feeling safe is a strong influence on behaviour; whilst other factors are a nuisance fear can be absolute deterrent. The source of safety concerns varies: older people are sensitive to young attackers and accidents in isolated locations. Young people voiced concern about 'stranger danger', reflecting discourses about their vulnerability in public spaces (Pain, 2006).

Safety is a known concern in urban greenspaces (McCormack et al 2010; Villella et al., 2006), particularly for women, minority ethnic groups and older people (CABE 2010; Jorgensen and Anthopoulou, 2007). Minority ethnic users of urban greenspace, particularly females, feel less safe than White British users (Morris and O'Brien 2006). Fear centres on who else is present and their behaviour (Dinnie et al., 2013; Madge 1997). For adults, perceptions of prevalent anti-social behaviour are a strong deterrent (Gidlow and Ellis, 2011; Seaman et al 2010), hence waterways are problematic. Undesirable behaviour – littering, drinking, vandalism – is associated with young people, hence their presence deters adults (Bell, Thompson Ward & Travlou 2003; Gidlow and Ellis 2011; Seaman et al. 2010). This research finds waterways share these intimidating characteristics, which are intensified because water compounds safety concerns such as fear of attack (xx 2018).

Those least likely to access waterways share a sense of vulnerability outdoors. Vulnerable groups are relatively powerless and feel threatened in public spaces due to lacking control over their life and others (Bromley and Stacey, 2012). Although demographic characteristics influence vulnerability, it is affected by personal attitudes to risk and factors such as ability to swim, or familiarity with waterway environments. The prominence of safety concerns is not merely symptomatic of concerns around public spaces, as waterways present specific threats and are strongly associated with risky behaviour. Dirt and litter convey neglect, and associate waterways with social disorder such as substance misuse and gang activity (Innes, 2004; McCormack et al. 2010), deterring use. Findings demonstrate other spatial characteristics influencing sense of safety. Narrow paths along unguarded water prompt fear one might fall or be pushed in; surrounding buildings or vegetation impede visibility, as does poor lighting. Linear spaces with limited lateral access feel confined, lacking open vistas and integration to the urban fabric (Kullmann, 2011). For the risk sensitive this represents difficulty escaping

trouble or reaching help. Physical characteristics are confounded by lack of ‘eyes on the street’ from overlooking buildings or pedestrians (Jacobs, 2011). Such hidden spaces attract risk-taking activity, deterring sociable use.

This research reveals waterways present issues not associated with other spaces available for outdoor recreation, characteristics interacting with social vulnerability to make them problematic. Low familiarity in comparison with greenspaces such as urban parks may be a factor. But findings suggest people experience different reasons for not accessing the outdoors, and not spending it in specific bluespaces. If spatial characteristics are significant to non-use, generalisation across different types of space may be inappropriate. Future research should consider how the spatiality and quality of bluespaces vary, and how this affects accessibility.

4.1 Implications for promoting accessibility

Promoting equitable access to bluespaces is challenging. Lack of interest and awareness might be widespread, whilst some feel so constrained that outreach has little impact (Scott and Mowen 2010). Pressures on time or finances derive from complex factors, as does social vulnerability entrenched along lines of race, class and gender (Brownlow, 2006). Social disadvantage is more than predictor of under-use of bluespaces, it is a cause, rooted in inequality. But because spatial characteristics affect how safe people feel, managers and planners can enhance accessibility. Poor condition environments with visible signs of neglect feed fears (Boyd et al 2018; McCormack et al 2010), as do landscapes which feel constrained or lack visibility (Milligan and Bingley, 2007). CRT map incidents reported on waterways, but perceived risk does not always reflect actual crime rates (Pain, 2006). Understanding risk

perception is therefore essential to promoting access by vulnerable groups. Bluespaces might be made more appealing by being made to feel less risky and reversing negative characteristics: ensure cleanliness, light dark paths, restrict crowding. Adults suggest security guards or surveillance makes them feel safer in greenspaces (Gidlow and Ellis 2012; Villalla et al 2010). Participants also recommended railings along risky water edges. The presence of more socially acceptable users will increase ‘eyes on the towpath’, attracting those deterred by isolation - a virtuous circle promoting safe use.

However, negative perceptions are not wholly derived from first-hand experiences. Spatial enhancements cannot influence those perceiving waterways as unappealing unless negative narratives are challenged. A potential ‘information underclass’ lacks understanding because of failure to communicate with all demographic groups (Roberts-Gregory and Hawthorne, 2016). Understanding amongst communities without a tradition of accessing waterways may be promoted through outreach. Showcasing events or activities may attract those who expect nothing to do at waterways. But more information is insufficient to attract new users (Morris and O’Brien 2011). Those unfamiliar with a space fear standing out (Ethnos, 2005; Rishbeth and Finney, 2006). Making them feel comfortable means changing perceptions *and* affective experiences. Facilitated introductory visits help develop familiarity and reduce anxieties (Morris and O’Brien, 2011). Interventions during Stage 4 of this research took people to waterways for the first time, offering introductory experiences (volunteering, walk, boat trip) which researchers observed. Afterwards many participants said they had found the waterways more pleasant than expected, and expressed a wish to return. Their comments confirmed peer communication as the best way to encourage others to follow (Morris and O’Brien, 2011), recommending their social networks and community hubs for outreach. Promoting equal access therefore requires managers to identify under-represented communities, then seek

gate-keepers to their networks, action requiring resource and skills (Morris and O'Brien, 2011; Natural England 2013).

5. Conclusions

This research revealed reasons people do not access urban bluespaces, explaining under-representation of certain demographic groups. It suggests people experience different reasons for not spending time outdoors, and not visiting specific spaces. Analysis suggests the presence of unguarded water and a long history of negative narratives limit willingness to visit urban waterways. Waterway managers may be reassured by the finding that waterway characteristics are influential, because potential for change is within their influence. They might counter negative facets of waterway spaces, and offer appealing introductions for non-users. The greatest challenge is addressing prevalent perceptions of risk which underlie many reasons waterways are unappealing. Perceived risk is an absolute limit on visiting rather than a nuisance, particularly for vulnerable groups. By working to assess a site from multiple perspectives, mindful of vulnerable people's experiences, organisations might identify how risks can be mitigated to increase accessibility. Waterways may be made to feel less threatening through spatial enhancements and more eyes on the towpath, although features such as unguarded water cannot be eradicated. More challenging is that the roots of vulnerability lie in power inequalities. This project confirms facilitated activities targeting under-represented groups help introduce non-users to unfamiliar environments, under-mining negative perceptions, and initiating peer-promotion. However, this is resource intensive, prompting difficult decisions about who to target. Impacts on longer-term behaviour change are also unclear (Rishbeth and Finney, 2006).

Many research participants, particularly adults and families, enjoyed time outdoors but chose other environments over urban waterways. Risk arises in all open spaces, but urban waterways, relatively constrained, often isolated corridors featuring unguarded water, present unique dimensions. This highlights that reasons for non-use should not be generalised across spaces. Research should explore perceptions of particular spaces in order to fully grasp nuanced reasons for non-use. This research could not consider the full diversity of views and behaviours around waterways, or all personal characteristics influencing non-use. Further qualitative investigation of bluespaces, including non-users' perspectives are required. Given the difficulty of garnering perceptions from people with no prior experience of a space this requires methodological innovation.

For those designing and managing bluespaces it is important to be mindful of diverse perceptions, preferences and experiences to avoid perpetuating the dominance of certain groups. It is particularly important to engage with vulnerable groups for whom bluespaces are unfamiliar and intimidating, seeking insights as a basis for appropriate interventions. Future research can assist by comparing the relative appeal of different bluespaces, particularly for those not currently accessing them. Longitudinal perspectives are also required to test long-term impact on behaviour and attitudes.

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Figure 1 Research design and stages

Left column = data collection method

Right column = analysis and outcomes

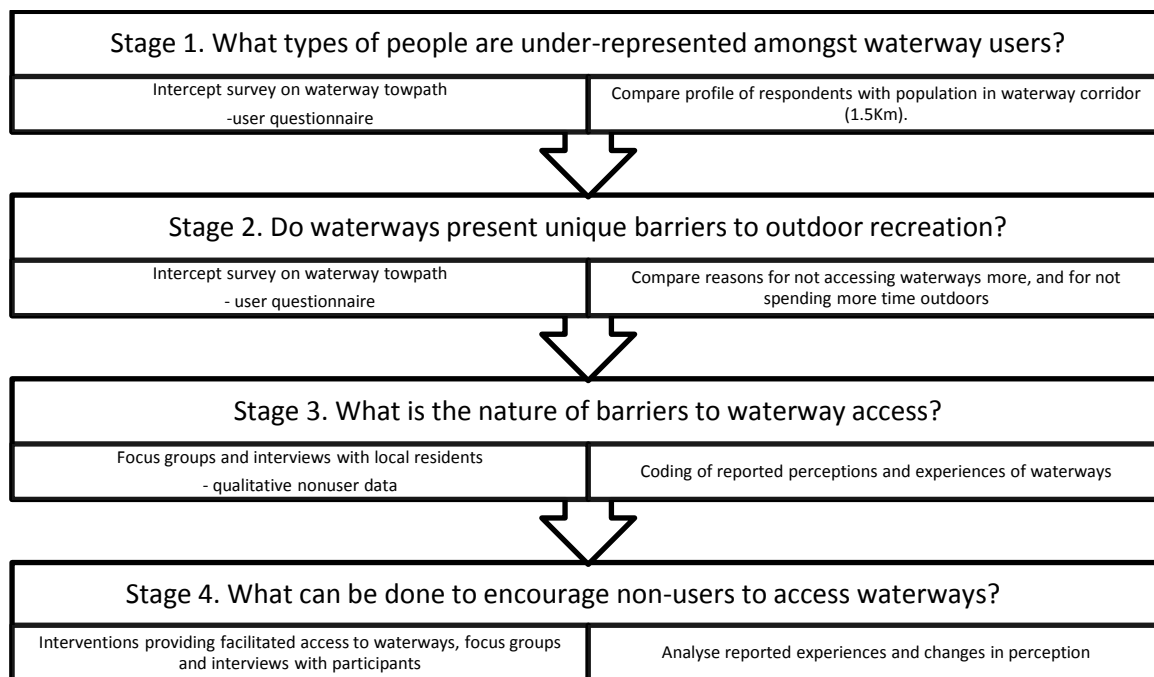


Figure 2 Grand Union Canal in Milton Keynes which local residents described as pleasant and well maintained



Figure 3 Regents Canal in Tower Hamlets which local residents associated with graffiti, narrow and uneven paths, lack of overlooking buildings and limited access points



Table 1 Characteristics of waterway users identified by user questionnaire

Total no. respondents 312					
All figures = proportion of respondents					
Gender			Health		
Male	Female	Other	Experience a limiting condition	Not limited	
62.2%	37.8%	0%	10.0%	88.8%	
Age					
16-24		25-44	45-64	65+	
6.4%		38.4%	32.1%	23.0%	
Ethnicity					
White	Mixed	Asian/British Asian	Black, African, Caribbean/Black British	Other	No Answer
92.0%	1.6%	4.5%	0.6%	0.6%	0.6%

Table 2 Waterway users' reasons for not visiting waterways more

Proportion of respondents reporting limits to waterway access	29.5%
Reason	No. respondents
Distance / inconvenient location*	20
Won't visit at night / during dark	20
Work commitments*	14
Drinkers/ drug users there	10
Too many cyclists / fast cyclists	9
Gangs / youths / strangers there	6
Too busy / no time*	4
Weather*	4
Boating/ mooring restrictions	4
Limited health / fitness*	3
Dog waste	3
Too many people there	3
Path condition / mud	2
Uncontrolled dogs	1
Don't know where they are	1
Family commitments	1
Dead bodies	1
High water	1
<i>Total no. respondents 92. Some respondents gave more than one reason.</i> *Reasons overlapping with Table 3	

Table 3 Waterway users' reasons for not spending more time outdoors

Proportion of respondents reporting limits to amount of time outdoors	22.4%
Reason	No. respondents
Work commitments*	40
Weather*	11
Too busy / no time*	7
Home / Family commitments	6
Limited health / fitness*	3
Distance / inconvenient location*	1
No garden	1
Personal preference	1
Finances	1
Laziness	1
Age	1
<i>Total no. respondents 68. 4 gave 2 reasons.</i> *Reasons overlapping with Table 2.	

Table 4 Qualitative Research Participants

Total no. respondents 84									
All figures = proportion of respondents									
Gender			Age group			Ethnic identity			Never visited a waterway prior to research
M	F	Other	Under 18	Adult	65+	White British	Black, Asian, Minority Ethnic*	Other	
35	49	0	42	32	10	44	37	3	25
41.6%	58.3%	0%	50.0%	38.1%	11.9%	52.4%	44.0%	3.6%	29.8%

*Participants were invited to self-identify their ethnic identity. Due to sample size minority ethnic groups are combined for ease of analysis and comparison with national data. Where issues specific to one ethnic group were identified this is detailed below.

